DOCUMENT RESUME

ED 191 217 EC 124 578

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TITLE Speech--Language Therapy with the Non-Verbal Child Utilizing Assistive Devices.
PUB DATE Apr 80
NOTE 14p.: Paper presented at the Annual International Convention of The Council for Exceptional Children (58th, Philadelphia, PA, April, 1980, Session T-66).

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS *Communication Skills; *Disabilities; Educational Diagnosis; *Evaluation Methods; Guidelines; Mobility Aids; *Nonverbal Communication; Receptive Language; *Speech Instruction; Young Children

ABSTRACT

The paper describes assessment techniques, the process of aid selection, and therapy procedures with young nonverbal handicapped children. Assessment of such children requires an evaluation of the child's present means of communication, hearing, vision, receptive skills, and ability to use language (verbal, gestural, or graphic). Among factors to consider when assessing a physically handicapped nonverbal child are the limitations the handicap may have placed on normal experiences and test bias that may therefore result. Considerations in aid selection include the child's mobility, parent attitudes, cost effectiveness, and the availability of training personnel. In working with nonverbal children it is important to establish a consistent yes/no response that is understood by everyone who works with the child. Therapy should begin with prelinguistic skills; a receptive language program should follow. (PHR)

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SPEECH - LANGUAGE THERAPY WITH THE NON-VERBAL CHILD UTILIZING ASSISTIVE DEVICES

as presented

to the

COUNCIL FOR EXCEPTIONAL CHILDREN

58th INTERNATIONAL CONVENTION

PHILADELPHIA, PA.

April 22, 1980

by

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WHAT IS NON-ORAL COMMUNICATION?

There are many synonyms for the term "non-oral". Some professionals use the term non-verbal while others prefer to use non-vocal. They all refer to the individual who is not able to use speech skills and communicate his needs in an acceptable and consistant manner. A non-verbal child has a severe oral musculature involvement that is frequently caused by cerebral palsy, head trauma, oral apraxia or severe neurological impairment. Depending on the severity, a child may either be completely speechless or he may have the ability to produce a few speech sounds. In the latter case, his ability to speak is often so limited that he cannot communicate freely without frustration and confusion on the part of the listener. Usually this child is understood only by his family and close friends.

Many developmental and personality problems arise when one lacks normal communicative skills. These children are often deprived of the everyday experiences in interacting with people in their environment. Many people assume that the child who cannot talk, does not understand words being said to him. In the past, many physically impaired individuals were labeled 'mentally retarded" solely on the fact that they could not speak. Their physical appearance and awkward attempts to speak were shunned by society. They were not perceived as human beings because without a means of communication they had no place in society.

The non-verbal child is jeopardized socially, emotionally, and developmentally because of his lack of stimulation. Oftentimes, the child is assumed to lack motivation, but what should we expect from the child who continually fails at communication? Some of these children face failure and frustration for five or six years or more before someone finds a way for him to respond to his environment.

In years past, speech pathology programs dealt only with identifying the non-verbal child and primarily trained their students to use oral stimulation techniques and breathing exercises or articulation training for the non-verbal child.

There was little training in the use of communication boards and even less about the reflex patters of a cerebral palsied child and the appropriate therapy techniques needed in working with the physically handicapped.

Many speech pathologists feel that their priority is to provide the therapy needed to facilitate speech production. Of course this is true, but they must be able to identify the children at risk as early as possible in order to provide the most appropriate therapy. We all must acknowledge that some severely involved children will not be able to develop intelligible speech regardless of how much time they spend in therapy. Some children will develop functional speech only after years of daily speech training. We cannot wait to judge this child's communicative skills at age five or six. To be effective and to prevent communicative and educational delays, we must identify the infants at risk and begin appropriate speech and language stimulation.

Working with non-verbal children requires a team approach. All professionals in the field of Special Education must be cognizant of the educational factors that could affect the non-verbal child. As professionals, we would all appreciate the perfect school system or educational seating with the necessary resource help available. But in some situations the special education teacher will not have an occupational therapist, physical therapist or speech therapist to rely on for help or reference. When these services aren't immediately available, the teacher must be knowledgeable of the problems that are so often present in the physically or communicatively handicapped child and make the most appropriate referrals to outside agencies as soon as possible. Sometimes the physician may be the only immediate source.

ASSESSMENT GUIDELINES FOR THE NON-VERBAL CHILD

We begin an evaluation of the non-verbal child by assessing his present means of communication. Some so-called "non-verbal" children might have a few words that

could be understood by his family. If so, we want to make sure that the child uses as much speech as possible. We are not looking for the all or none means of communication. The child with some speech should be encouraged to speak as much as possible and use a communication board or technical aid as a supplement.

Next, we assess how well he communicates through facial expression, gesture, finger pointing and/or finger spelling. Some children may be able to write. If so, we assess whether he has the necessary skills to communicate his thoughts. It's surprising how many ways children can express their wants and desires without speech, but these methods are often limiting and many messages are misunderstood. Any mode of communication, whether it be pointing, grunting or communicative sounds or aids, will not be effective if it results in frustration for the child or his listener.

Each child must be screened for auditory acuity. Failures must be referred to an audiologist for more complete testing. Test results will identify any hearing problems and will help the therapists and teachers to provide the services necessary so that the child will benefit. Any degree of hearing impairment has the possibility of affecting ones development of communication skills. The occurrence of <u>both</u> physical handicaps and hearing loss can greatly affect the child's total development.

We must evaluate the child's ability to attend to visual stimuli. If it is not adequate, we must begin immediately to train "attending". It is one of the prerequisite skills required to properly utilize a communication aid.

We must assess each child's visual receptive skills. This will tell us how much the child comprehends through visual symbols. Is he limited to pictures, pictographic symbols or the printed word? What size picture is he most comfortable with?

The child's visual association skills will tell us how well he can relate the concepts that are presented visually. Is the child able to keep two concepts in mind and recognize the point-to-point correspondence between them (e.g. hammer-nail)?

Another vital component of assessment is language ability. The ability to use language adequately whether verbal, gestural or graphic is essential to academic, social and economic success.

To assess language functions, one must consider the following three components Cognitive skill; Receptive language skills and Expressive language skills.

I would like to mention some tests that have been helpful to me in the public school program.

Receptive: PPVT, ITPA, Boehm, Carrow, MillerYoder, North Western, Houston, Utah

Expressive: ITPA, Full Range Picture Vocabulary Test, Basic Concept Inventory Analysis of a Spontaneous Language Sample, Developmental Sentence Scoring, Informal observations during activities of daily living, Selected tasks from the Peabody Language Development Kit.

I have sometimes cut the pages up or enlarged them so that the child may be able to point to them easier, either by hand or by headstick or even by a direct eye gaze toward a selected response.

One simple test will not be appropriate for every child. Most of these tests are not standardized with physically handicapped non-verbal children, so we are not safe in comparing test scores to the norms. Parents must also understand that most tests are biased and often do not fully reflect the child's potential.

I would like to take a moment to talk about testing the physically handicapped child. No matter which tests you use, you must make sure that the test is appropriate. Consider the following factors when choosing a test for a physically handicapped, non-verbal child:

1. A physically handicapped child must have a means in which to indicate his choice of response with consistency. It may be that a means of selection has to be trained before a test can be given:
   A. The child might be taught to indicate by using a direct eye gaze movement.
   B. The child could be taught to consistently answer yes/no. The therapist could present a question and then point to each choice of answers (PPVT) until the child gives a "yes" response for his choice.
   C. Enlarging materials will help the child who has physical limits.
2. We must realize that a test is only a tool to evaluate a childs current level of performance. If it doesn't tell you anything, then don't waste your time giving it.
3. Many children with physical handicaps are lacking in normal experiences that help to build their vocabulary. This is one of the biases to consider when choosing a test. For instance a physically handicapped child may not comprehend the pictures of fork/knife because he may have always been fed with a spoon. He may not understand activities such as jumping, riding bicycles or playing ball because he doesn't have the capabilities or has never had the experience of even seeing them performed by other children.
4. A child with visual or hearing impairment will also be handicapped as he is unable to receive information through the normal processes.
5. Teachers must realize that the test scores obtained from most physically handicapped children will be biased when taking standardized tests and this will be a factor in interpreting scores.
6. Time limits on tests should be avoided. Children with physical handicaps require a greater amount of time to respond and they should not be jeopardized for it.
7. It may take several sessions to test a child who is only able to give a yes/no response. All educators must be patient and objective. If a test is not available, we must construct one. Comparing pre and post data may be your only

way of proving your child's advancement. If at all possible, we must try to obtain scores from standardized tests and use pre and post comparisons as a supplemental test or as your last resort.

8. Last of all of what I've found most helpful is to test the children's abilities through simple test, teach, and retest means and comparing pre and post measurements with proper documentation.

Motivation is another key factor in order to plan for therapy. One should find what motivates the child and what relaxes him. Is he interested in communicating with others or does he communicate with only a select few? Children do not always realize how communication can manipulate others and satisfy their desires.

Reports from previous therapy programs will also give you an example of what to expect from him. Try to find out the reasons behind his success or failure. It may seem that all of these investigations are redundant, but we must remember it may take many hours to get to know a child who cannot express himself.

One of the most important evaluations one should make concerning the non-verbal child is the extent of his physical handicap. The coordinated efforts of the physical therapist and occupational therapist will decide the most appropriate sitting position, method of response and the placement of material that will permit the most accurate and rapid responses.

The child should be able to hold his head up, permitting his eyes to focus on his tray or communication board. He should be correctly positioned in his chair (either through custom made seating devices or cushioning) so that the child will be in the best position to use his arms for pointing. Primitive reflexes should also be considered as it will affect whether a child is able to cross his arms over the midline. This will directly affect the positioning of the pictures or symbols on the communication board.

It often takes many weeks to successfully evaluate the non-verbal physically handicapped child. The complex problems that often exist and the amount of therapy time available will directly affect the length of your evaluation period.

An intense evaluation of all the pre-requisites we've just mentioned will decide whether you have a good candidate for a communication aid.

A communication aid should fulfill the needs of the child. It is not a toy or a thing that a child plays with for while and then tires of. We must be careful of the agencies that look at the devices as solutions to their problem. The devices are only a tool for the educational and rehabilitation process. It's two main functions are to (1) provide independence in communicative skills, and (2) increase their speed of communicating. Once we decide that the child is in need of an assistive device, we must consider the choices that we have:

Non-verbal communication systems are divided into three categories as classified by Vanderheiden.

1. Scanning is any technique or aid in which the selections are offered to the user by a person or display. The use selects the character by responding to the person or display.
2. The Direct Selection method of operating a communication aid is any technique or aid in which the desired response is directly indicated by the user.
3. Encoding is any technique or aid in which the desired choice is indicated by a pattern or code of input signals, where the pattern or code is referred to on a chart.

DECISION MAKING PROCESS OF AID SELECTION

Our first priority is to make sure that the child is properly seated and positioned. This task is the responsibility of the physical and occupational therapist. The purpose of proper seating is to provide the necessary trunk stability which will maximize his available motor skills.

The occupational and/or physical therapist will help decide which motor skills can best be used to access the aid. They will select the most appropriate means of control. A control device is the means in which a person operates the communication aid.

Secondly, we consider the child's independence in mobility. Is he walking? If so, we need an aid that is portable. If he is confined to his wheelchair, we need an aid that can be attached to it. Independence in mobility and communication should go hand in hand. One should not be sacrificed for the other if at all possible.

Thirdly, an interdisciplinary team would meet at this point to gather all the available information about the child. The team should be made up of the occupational therapist, speech therapist, physical therapist, teachers and parents or any other personnel that are in any way responsible for this child.

The speech therapist will report her evaluation of speech and language skills, the physical therapist will report her seating evaluation and the occupational therapist should provide information about the child's motor skills and recommendations for control devices. The teacher will report the academic skills and the parent will report their concerns about their child. All are valuable in making an appropriate selection.

We've talked about seating, motor skills, communication and academic skills, but there are other important factors which should be considered: cost effectiveness, parent attitudes, maintenance required, durability, mode of output (either l.e.d., strip printer, video) and the time we estimate the child to be using the aide. Other factors are portability, environment, levels of functions provided, and the available training personnel. Consider whether the child needs an aid that he can independently turn on and off.

During the past two years, we've experienced many successes as well as failures. To keep you from running into the same problems, I would like to mention a few we've encountered.

1. The decision making process is very complex and requires the hard effort of all personnel involved. A thorough evaluation is vital. The child's attitude should also be considered in the decision making process. He is the one that will reflect the success of the aid.
2. Many companys are renting communication aids from two weeks up to a month. This may be very important because sometimes no matter how thorough your evaluation is, there still may be other problems that will arise. If you have any questions as to its appropriateness, try to lease or rent the aid first.
3. Many agencies feel that more money will buy the better aid. This is not always true. Sometimes simple aids are more useful than a more expensive or sophisticated aid. Also, aids require maintenance and thought should be given as to whether an aid that could need lots of technical service is feasible.

THERAPY PROCEDURES

Earlier I spoke of the necessary evaluation for language. After I decide the level at which the child is functioning, I usually compare his skills to normal development processes as closely as possible.

There are some basic guidelines one should follow when working with the pre-academic child:

1. Establish a consistent yes/no response that everyone who works with the child can understand.
2. Begin with pre-linguistic skills:
   A. Train visual attention skills. Teach the child to track objects

horizontally and vertically through games or technical scanning aids.

B. Train auditory attending. Begin by listening and recognizing environmental sounds and tapes of voices of the family members. Increase listening time.

C. Teach him to respond to simple requests while training eye contact, and developing a basic functional vocabulary.

D. Teach the younger child to become aware of objects by helping him to explore, let him manipulate common objects - all the while focusing on vocabulary development.

D. Train imitation; begin with simple imitative activities that require a prompt and increase to imitation without a prompt. Have the child imitate gross physical movement, eye movement and pointing to pictures on a communication board.

As the child completes all the pre-linguistic skills, a receptive language program should be implemented. For the younger child who is not yet at a reading level, you will need to decide on how to present words to the child. It may be through pictures, Bliss Symbols, Rebus or a combination of these and other similar types. Begin vocabulary training by just teaching words that are most important to him--bathroom, home, food, a pet's name or favorite toy. The Hightower Vocabulary list can be very helpful. The parent will also be needed to decide on semantically potent words for their child--meaning that the words that the child is more interested in will be easy for him to learn. They will also be used more. After the child can consistently imitate, teach him to label, match and categorize the new words. Children love word games so have him respond to requests like "show me", "point to" or "look at".

Normal language development activities can easily be followed with these children with a little imagination and some handmade materials.

As the child develops, he will need some means in which to indicate his wants and needs. Communication Boards are very helpful if the child can point. If not, a communication board with an encoding system may be necessary. No matter what type is developed, it should facilitate spontaneity.

As the child becomes spontaneous and can begin describing his own wants and needs, an expressive language program should be incorporated. Communication will be quite a new dimension to the non-verbal child. The more experiences he has, the more he is going to have to talk about.

There are a few factors that are the key to successful therapy. Early intervention is one of them. Without early intervention of motoric, visual or auditory problems, there might be an uneven attainment of developmental milestones. Language problems will become so complicated by emotional and behavioral problems that assessment and treatment will become increasingly difficult.

Another factor to consider is parent participation. The parent should be involved from the very beginning by giving you the background information about their child. They will help you make up a functional vocabulary list. The parent should be involved in assessment team meetings and in making decisions concerning the I.E.P. A home program is also another way of making sure the parents become directly involved in their child's progress. There will be many instances where the parent doesn't know what to expect from their child. Unless the teacher or therapist gives the parents guidelines, they might not know the true upper limits of their child's capabilities.

Other factors for successful therapy are:

1. Training associated personnel and keeping them up to date concerning your goals.
2. Providing as many experiences as possible.
3. Keep activities challenging and provide for a reasonable amount of success.

4. Document success as well as failures.

5. Provide instructions in the proper use of the Communication Board.

6. Phrase questions so that they require more than a yes/no or one word response.